

**ANALISIS KELIMPAHAN MIKROPLASTIK PADA INSANG DAN SALURAN PENCERNAAN IKAN SAPU-SAPU *Pterygoplichthys pardalis* (Castelnaud, 1855) DI CILIWUNG DAERAH SRENGSENG SAWAH, JAKARTA SELATAN = Analysis of Microplastic Abundance in Gills and Digestive Tract of *Pterygoplichthys pardalis* (Castelnaud, 1855) in Ciliwung, Srengseng Sawah, South Jakarta**

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Abstrak

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Ikan sapu-sapu merupakan salah satu ikan yang dapat dijumpai di Ciliwung dan mampu bertahan dari pencemaran pada perairan sehingga kerap dijadikan indikator biologis untuk perairan tercemar. Penelitian ini bertujuan menganalisis kelimpahan dan bentuk mikroplastik pada ikan sapu-sapu *Pterygoplichthys pardalis* (Castelnaud, 1855), air, dan sedimen di Ciliwung daerah Srengseng Sawah, Jakarta Selatan. Pengambilan sampel ikan dilakukan dengan jaring sebanyak 4 kali dan diambil 10 ekor. Pengambilan sampel air dan sedimen dilakukan pada 5 titik. Insang dan saluran pencernaan di ekstraksi dan dihancurkan menggunakan HNO<sub>3</sub> 65%. Sampel air sebanyak 20 liter disaring dengan plankton net. Sampel sedimen diambil kemudian sampel dikeringkan di oven. Larutan NaCl jenuh ditambahkan untuk pengapungan mikroplastik pada tiap sampel insang, lambung, usus, air tersaring, dan sedimen kering. Sampel diletakkan pada *Sedgwick Rafter Chamber* kemudian diamati bentuk dan jumlah mikroplastik di bawah mikroskop. Hasil penelitian menunjukkan kelimpahan rata-rata mikroplastik pada Insang adalah  $5.973 \pm 1.087,85$  partikel ind<sup>-1</sup>,  $5.250 \pm 313,22$  partikel ind<sup>-1</sup> pada lambung,  $5.089 \pm 253,79$  partikel ind<sup>-1</sup> pada usus,  $223,6 \pm 46,12$  partikel L<sup>-1</sup> pada air, dan  $336.320 \pm 38.087,68$  partikel kg<sup>-1</sup> pada sedimen. Persentase komposisi bentuk mikroplastik terbesar pada insang, lambung, usus, dan sedimen adalah fragmen. Untuk sampel air, persentase komposisi bentuk mikroplastik terbesar adalah film.

**Abstract**

Cattle fish is one of the fish that can be found in Ciliwung and is able to stand with pollution in the waters so it is often used as a biological indicator for polluted waters. This study aims to analyze the abundance and shape of microplastics in the cattle fish *Pterygoplichthys pardalis* (Castelnaud, 1855), water and sediments in Ciliwung, Srengseng Sawah, South Jakarta. Fish samples were taken with a net 4 times and 10 were taken. Water and sediment samples were taken at 5 points. Gills and digestive tract were extracted and crushed using 65% HNO<sub>3</sub>. A 20 liter water sample was filtered with a plankton net. The sediment sample was taken and then the sample was dried in an oven. A saturated NaCl solution was added for microplastic flotation on each sample of gills, stomach, intestines, filtered water, and dry sediment. The sample was placed in the *Sedgwick Rafter Chamber* and then the shape and number of microplastics were observed under a microscope. The results showed that the average abundance of microplastics in gills was  $5,973 \pm 1087.85$  ind<sup>-1</sup> particles,  $5,250 \pm 313.22$  ind<sup>-1</sup> particles in the stomach,  $5,089 \pm 253.79$  ind<sup>-1</sup> particles in the intestine,  $223.6 \pm 46,12$  particles of L<sup>-1</sup> in water, and  $336,320 \pm$

38,087.68 particles of kg-1 in sediment. The largest percentage of microplastic form compositions in gills, stomach, intestines, and sediments are fragments. For water samples, the largest percentage composition of the microplastic form is film.</p>